

Electronic monitoring (probation)

Benefit-cost estimates updated December 2015. Literature review updated December 2014.

Current estimates replace old estimates. Numbers will change over time as a result of model inputs and monetization methods.

The WSIPP benefit-cost analysis examines, on an apples-to-apples basis, the monetary value of programs or policies to determine whether the benefits from the program exceed its costs. WSIPP's research approach to identifying evidence-based programs and policies has three main steps. First, we determine "what works" (and what does not work) to improve outcomes using a statistical technique called meta-analysis. Second, we calculate whether the benefits of a program exceed its costs. Third, we estimate the risk of investing in a program by testing the sensitivity of our results. For more detail on our methods, see our [technical documentation](#).

Program Description: A computer-based tracking device electronically monitors the location of an offender. Electronic monitoring devices are either radio frequency or Global Positioning System (GPS) units. Offenders are generally required to remain at home except for approved activities such as work, school, or treatment. Electronic monitoring is used for probationers, parolees, or pre-trial defendants and can be used in lieu of, or in addition to, confinement. The use of electronic monitoring varies from lower to higher risk offenders. Parole and probation populations have been placed into two separate effect-sizes in order to reflect the statistically significant difference in effectiveness.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$0	Benefit to cost ratio	n/a
Taxpayers	\$7,076	Benefits minus costs	\$26,529
Other (1)	\$14,246	Probability of a positive net present value	94 %
Other (2)	\$4,089		
Total	\$25,411		
Costs	\$1,118		
Benefits minus cost	\$26,529		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2014). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	\$0	\$7,075	\$14,245	\$3,531	\$24,851
Adjustment for deadweight cost of program	\$0	\$0	\$1	\$559	\$560
Totals	\$0	\$7,076	\$14,246	\$4,089	\$25,411

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization, the economic spillover benefits of improvement in human capital outcomes, and the benefits from private or employer-paid health insurance. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$377	1	2009	Present value of net program costs (in 2014 dollars)	\$1,118
Comparison costs	\$1,405	1	2009	Uncertainty (+ or - %)	10 %

Electronic monitoring costs per day were provided by the Department of Corrections. The Washington State Institute for Public Policy calculated the total cost per participant assuming 30 days on electronic monitoring in lieu of 30 days in confinement (average daily cost for jail and prison).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Treatment N	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
				ES	p-value	ES	SE	Age	ES	SE	Age
Crime	Primary	10	7036	-0.351	0.130	-0.315	0.216	30	-0.315	0.216	40

Citations Used in the Meta-Analysis

- Baird, C., Wagner, D., Decomo, B., & Aleman, T. (1994). *Evaluation of the effectiveness of supervision and community rehabilitation programs in Oregon*. San Francisco: National Council on Crime and Delinquency.
- Bonta, J., Wallace-Capretta, S., & Rooney, J. (2000). A quasi-experimental evaluation of an intensive rehabilitation supervision program. *Criminal Justice and Behavior*, 27(3), 312-329.
- Bonta, J., Wallace-Capretta, S., & Rooney, J. (2000). Can electronic monitoring make a difference? An evaluation of three Canadian programs. *Crime and Delinquency*, 46(1), 61-75.
- Di Tella, R., & Schargrodsky, E. (2009). *Criminal recidivism after prison and electronic monitoring* (Working Paper No. 15602). Cambridge: National Bureau of Economic Research.
- Jolin, A., & Stipak, B. (1992). Drug treatment and electronically monitored home confinement: An evaluation of a community-based sentencing option. *Crime & Delinquency*, 38(2), 158-170.
- Jones, M., & Ross, D.L. (1997). Electronic house arrest and boot camp in North Carolina: Comparing recidivism. *Criminal Justice Policy Review*, 8 (4), 383-404.
- Padgett, K.G., Bales, W.D., & Blomberg, T.G. (2006). Under surveillance: An empirical test of the effectiveness and consequences of electronic monitoring. *Criminology & Public Policy*, 5(1), 61-91.

Petersilia, J., & Turner, S. (1990). *Intensive supervision for high-risk probationers: Findings from three California experiments*. Santa Monica, CA: RAND.

Sugg, D., Moore, L., & Howard, P. (2001). *Electronic monitoring and offending behaviour - reconviction results for the second year of trials of curfew orders* (Findings 141). London: Home Office; Research, Development and Statistics Directorate.

For further information, contact:
(360) 586-2677, Institute@wsipp.wa.gov

Printed on 01-09-2016



Washington State Institute for Public Policy

The Washington State Legislature created the Washington State Institute for Public Policy in 1983. A Board of Directors—representing the legislature, the governor, and public universities—governs WSIPP and guides the development of all activities. WSIPP's mission is to carry out practical research, at legislative direction, on issues of importance to Washington State.